Site Specific Sampling Plan

Avery Landing Site
Avery, Idaho

for
Potlatch Forest Holdings, Inc.

August 30, 2011

GeoEngineers
Earth Science + Technology

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30 YEARS 2010

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File No. 2315-017-00

August 30, 2011

Prepared for:

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INTRODUCTION

This document presents a Site Specific Sampling Plan (SSSP) for environmental investigation at the Avery Landing Site (Site) located approximately 0.75 miles west of Avery, Idaho. This SSSP is to be used in conjunction with the Site Quality Assurance Project Plan (QAPP), dated August 30, 2011. The information contained in this SSSP is based on information available at the time of preparation. This SSSP may be updated as additional information becomes available.

The SSSP and associated QAPP were prepared in general accordance with the requirements of 40 CFR 300.415(b)(4)(ii) and "EPA Requirements for Quality Assurance Project Plans" (QA/R-5) (EPA/240/B-01/003 2001), and "EPA Guidance for Quality Assurance Project Plans" (QA/G-5) (EPA/600/R-98/018 1998) as required by the Administrative Settlement Agreement and Order on Consent No. CERCLA-10-2008-0135 entered into by Potlatch Corporation, Potlatch Forest Products Corporation, and the United States Environmental Protection Agency (EPA) in July 2008.

The following are the purposes for the present investigation and field activities:

1. To perform soil investigation activities (test pit excavation) and soil sampling and analysis to support delineation of two areas on the western portion of the Site where evidence of petroleum hydrocarbon product and/or sheen was observed during previous investigations.
2. To perform depth-to-product and/or depth-to-groundwater measurements in Site monitoring wells and piezometers to assess the presence of petroleum product on groundwater.
3. To perform decommissioning of one on-site, former domestic water supply well in accordance with applicable regulations.

1.0 SIGNATURES

Name **Title**	**Telephone** **Email** **Address**	**Signature**
Earl Liverman EPA on-scene coordinator	208.664.4858 Liverman.earl@epamail.epa.gov Coeur d'Alene Field Office 1910 Northwest Boulevard, Suite 208 Coeur d'Alene, Idaho 83814	
John Herzog Project Principal	206.728.2674 jherzog@geoengineers.com 600 Stewart Street Ste 1700 Seattle, Washington 98101	

2.0 PROJECT MANAGEMENT AND ORGANIZATION

The personnel involved in the project and their roles are listed below. The QAPP contains a detailed list off all project personnel.

Name	Telephone Email Address	Project Role	Data Recipient? (Y/N)
Earl Liverman	208.664.4858 Liverman.earl@epamail.epa.gov Coeur d'Alene Field Office 1910 Northwest Boulevard, Suite 208 Coeur d'Alene, Idaho 83814	EPA Project Manager/Oversight	Y
John Herzog	206.728.2674 jherzog@geoengineers.com 600 Stewart Street Ste 1700 Seattle, Washington 98101	Project Principal	Y
Iain Wingard	253.383.4940 iwingard@geoengineers.com 1101 S Fawcett Ave. Ste 200 Tacoma, WA 98402	Project Manager	Y
Garrett Leque	253.383.4940 gleque@geoengineers.com 1101 S Fawcett Ave. Ste 200 Tacoma, WA 98402	On-Site Field Coordinator	Y

3.0 SITE PHYSICAL DESCRIPTION AND CONTACT INFORMATION

Site Name	Avery Landing Site
Site Location	The Site is located approximately 0.75 miles west of Avery, Idaho, on the north side of the St. Joe River. The site is located in the NW quarter of Section 16, Township 45 North, Range 5 East, Willamette Meridian, and is located at latitude 47° 13' 57'' North and longitude is 115° 43' 40'' West.
Property Size	Approximately 6 acres
Site Contact	Earl Liverman
Nearest Residents	The eastern portion of the site includes the Bentcik property, a seasonally occupied residence.
Primary Land Uses Surrounding the Site	North: Highway 50 ("St. Joe River Road"), owned by the Federal Highway Administration (FHA). South: St. Joe River (rural/recreational) East: Rural/recreational West: Rural/recreational

4.0 SCHEDULE OF WORK

Activity	Estimated Start Date	Estimated Completion Date	Comments
SSSP and QAPP review	8/16/2011	9/2/2011	
Sample Collection	9/19/2011	9/23/2011	
Laboratory Sample Receipt	9/23/2011	9/26/2011	
Laboratory Analysis	9/26/2011	10/10/2011	
Data Validation	10/11/2011	10/24/2011	
Reporting	10/17/2011	11/1/2011	

5.0 HISTORICAL AND BACKGROUND INFORMATION

The Site is the former location of a railroad roundhouse and maintenance facility for the Chicago, Milwaukee, St. Paul, and Pacific Railroad (Milwaukee Railroad). Railroad operations at the Site ceased in the 1970s, and the railroad facilities and structures were subsequently demolished.

The Site has been the subject of multiple environmental investigations. Petroleum hydrocarbons have been identified in Site soil and groundwater and sediment in the St. Joe River. Petroleum hydrocarbon sheen has also been observed in an area where groundwater seeps into the St. Joe River. Additionally, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), carcinogenic and non-carcinogenic polycyclic aromatic hydrocarbons (cPAHs and PAHs), polychlorinated biphenyls (PCBs) and metals have been detected in Site media in association with the petroleum hydrocarbon contamination. The results of investigations of the Site are presented in the draft Engineering Evaluation/Cost Analysis (EE/CA) report prepared by Golder and Associates (Golder, 2010) for Potlatch and draft final EE/CA report prepared by Ecology and Environment for EPA (E&E, 2010).

Petroleum hydrocarbon product and/or sheen were observed in soil in two discrete areas on the western portion of the Site. However, the extent of petroleum hydrocarbon contamination in soil in the two areas was not delineated during previous investigations. The two areas are identified on Figure 1. One area encompasses the previous investigation location TP-03 and the second area encompasses previous investigation locations TP-06 and GA-3. As part of the current investigation, test pit excavation and soil sampling and analysis will be performed to delineate the extent of petroleum hydrocarbon contaminated soil in the two areas to support evaluation of removal actions on the western portion of the Site.

Petroleum hydrocarbon product has been measured on groundwater in Site wells and piezometers during multiple previous investigations of the Site. As part of the current investigation, measurements of the depth-to-product/depth-to-groundwater in existing wells and piezometers will be performed to provide a current assessment of the presence and extent of petroleum product on groundwater at the Site.

A well formerly used for domestic water supply still exists on the western portion of the Site. As part of the current field activities, the former domestic water supply well will be decommissioned.

6.0 CONCEPTUAL SITE MODEL

6.1. Contaminants

The primary contaminants of concern at the Site are petroleum hydrocarbons, and in particular oil- and diesel-range hydrocarbons.

6.2. Transport Mechanisms

Transport mechanisms include infiltration through soil, groundwater and surface water flow, erosion of Site soil, and sediment transport.

6.3. Receptors

Receptors include humans, wildlife, terrestrial vegetation, soil invertebrates, and aquatic species.

7.0 DECISION STATEMENT

The results from the current investigation will be used for the following:

- Test pit excavation and soil sampling and analysis will be used to further delineate the extent of petroleum hydrocarbon contaminated soil in the two areas to support evaluation of remedial actions on the western portion of the Site. Test pit activities will occur on Potlatch property, and not on FHA-owned property.
- Depth-to-product and/or depth-to-groundwater measurements in existing wells and piezometers will be performed to further the characterization of the extent of petroleum product on groundwater at the Site.
- The existing domestic water supply well present at the Site will be decommissioned in anticipation of future cleanup activities.

8.0 ACTION LEVELS

Site screening levels and laboratory reporting limits for chemical analytical results are provided in Table 2 of the QAPP.

DATA ACQUISITION AND MEASUREMENT OBJECTIVES

9.0 SITE DIAGRAM AND SAMPLING LOCATIONS

Figure 1 shows the general Site layout and proposed test pit locations. Excavation of test pits is to be performed in two areas on the western portion of the Site where petroleum hydrocarbon product and/or sheen were observed during previous investigations. The areas to be investigated

encompass previous sampling locations TP-03 as well as previous sampling locations TP-06 and GA-3.

Information presented in the EE/CAs identifying Site wells and piezometers will be used to locate the wells and piezometers in the field, including the former domestic water supply well. The locations of Site wells and piezometers are presented in the draft and draft final EE/CAs prepared for the Site (Golder, 2010 and E&E, 2010).

10.0 DECISION RULES

Decision rules for investigation to be performed on the western portion of the Site include the following:

- Between nine and 12 test pits are anticipated to be excavated in locations positioned radially around the existing sample locations on the western portion of the Site (i.e., TP-03, TP-06, and GA-3).
- Initially, nine test pits will be excavated in locations around the previous sample locations.
- Visual observations of the presence of petroleum hydrocarbons in the initial nine test pits will be performed.
- Additional test pits may be excavated at a distance further away from the initial locations if evidence of product and/or sheen is observed in the initial test pit locations.
- Two soil samples will be collected (one in the vadose zone and one at the groundwater table) from each of the completed test pits where observations indicate that the furthest extent or limits of petroleum contaminated soil have been reached. The soil samples collected will be archived for potential analysis.

11.0 INFORMATION NEEDED FOR THE DECISION RULES

The information needed to apply the decision rules is the results of field screening performed during the test pit excavations. The potential presence of contamination in soil will be evaluated using field screening techniques. Field screening results will be recorded on the test pit logs and the results will be used to delineate areas of soil contamination. In addition, screening results will be used as a basis for selecting soil samples for chemical analysis. Field screening will consist of the following:

- Visual and olfactory screening;
- Water sheen screening; and
- Headspace vapor screening.

The field screening techniques to be used during test pit excavation are presented in the QAPP.

12.0 SAMPLING AND ANALYSIS

Soil samples will be collected from each of the completed test pits where observations indicate that the furthest extent or limits of petroleum contaminated soil have been reached. Two soil grab samples will be collected from the sidewalls of each test pit; one sample from the vadose zone and one from the water table in the test pit. Soil samples collected from test pits at depths less than approximately 4 feet below ground surface (bgs) will be collected by the On-Site Field Coordinator by directly entering the test pit if it is safe to do so and using hand tools (i.e. stainless steel spoon). If it is not safe to enter a test pit, or where samples are to be collected from depths greater than 4 feet bgs, samples will be collected from material present in the excavator or backhoe bucket. Samples collected from the excavation equipment will be collected from the approximate middle of the excavator or backhoe bucket (i.e., material that has not come in contact with the bucket) using stainless steel spoons. Soil samples will be placed in laboratory-supplied clean containers and placed on ice for transport to the analytical laboratory. One or both of the soil samples will be analyzed by the laboratory. On receipt at the analytical laboratory, the soil samples collected will be archived for potential analysis.

Selected soil samples will be submitted for the following chemical analyses:

- Diesel- and heavy oil-range petroleum hydrocarbons by Ecology Method NWTPH-Dx
- Volatile organic compounds (VOCs) by EPA Method 8260
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270/SIM
- Polychlorinated biphenyls (PCBs) by EPA Method 8082
- Target Analyte List (TAL) metals by EPA Method 6000/7000 series

Sample selection will be based on review of the test pit logs and the observations of evidence for contamination. Samples submitted for chemical analysis will be identified based on their representativeness for the different types of contamination or conditions encountered in the test pit excavations. Approximately 10 to 15-percent of the samples collected are anticipated to be submitted for chemical testing.

Depth-to-product/depth-to-groundwater measurements will be performed using an oil/water interface probe which will be decontaminated between measurements. The probe will be inserted into the well/piezometer and lowered to the oil/water surface(s). Readings will be measured from the north rim of well/piezometer casings and recorded to the nearest 0.01 foot in the field notebook.

Sampling and analysis protocols are described in greater detail in the QAPP.

13.0 APPLICABILITY OF THE DATA

The data to be collected as part of this SSSP will be “definitive data” as described in EPA’s Region 10 SSSP template, version May 11, 2010. Definitive data is of sufficient quality for final decision making. Definitive data is needed as it will be used for determining the extent of contamination.

14.0 SPECIAL SAMPLING OR ANALYSIS DIRECTIONS

Special sampling and analysis methods are described in the QAPP.

15.0 METHOD REQUIREMENTS

The goal of the analytical methods is to achieve practical quantitation limits (PQLs) lower than the Site screening levels. However, commercially available laboratory analyses may not be able to achieve PQLs for all chemicals that are lower than screening levels. If commercially available laboratory analyses are not be able to achieve a PQL lower than the screening level for a specific chemical, then the PQL will become the screening level.

16.0 SAMPLE COLLECTION INFORMATION

Sample collection procedures to be utilized as part of this investigation including field documentation, sample labeling, packaging and shipment, and sampling equipment maintenance, calibration and decontamination are presented in the QAPP.

ASSESSMENT AND RESPONSE

17.0 PROJECT DISCREPANCIES

Project discrepancies will be noted in field notes. The final report that is prepared will contain the reason for any discrepancies, and an assessment of the extent to which the discrepancies affect the usability of the data. The QAPP contains additional detail regarding documentation of project discrepancies.

DATA VALIDATION AND USABILITY

Data generated by laboratory analysis will be provided in an electronic data deliverable (EDD) as well as hard copy. The EDD will be used for data tabulation and presentation as well as data review and validation that will be presented in the investigation report.

DATA VALIDATION OR VERIFICATION

Data validation will be performed as detailed in the QAPP.

Map Revised: 08 August 2011 amanza

Office: TAC Path: \\tac\Projects\2\2315017\GIS\2315017GIS_SSSP_F1_TestPitLocations.mxd

Data Source: ESRI World Imagery, NAIP 2009.
Sample Points and Boundaries digitized from:
Golder Associates (October 15, 2010) and
Ecology and Environment Inc. (December, 2010).

Projection: NAD 1983 StatePlane Idaho West FIPS 1103 Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Legend

- BH-1 ● — Previous Soil/Groundwater Investigation Location and Location Designation
- RS-5 ▲ — Previous Sediment Investigation Location and Location Designation
- Proposed Test Pit Location
- Property Boundary

N W E S

150 0 150
Feet

Proposed Test Pit Locations

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Figure 1